

# A lifesaving strategy

## Making the case for scaling up human milk banking to save vulnerable infants in South Africa

Breastmilk is considered a pillar of child survival. It has unique immunological and nutritional properties that help infants get a healthy start in life.<sup>1</sup> Human milk is even more important for infants in resource-limited settings who are especially vulnerable, such as pre-term babies. These infants are often exposed to potential pathogens through unsafe water or unhygienic conditions and need the additional protection that breastmilk provides.

In cases where breastfeeding is not possible because of the baby's slow development or the mother is unable to breastfeed, the next preferred feed is pasteurized own mother's milk. Adequate supply can be ensured through early lactation and "room-in" beds. When these are unavailable, pasteurized donor milk should be considered. Human milk banks are one way to provide safe breastmilk to such infants who need it most.<sup>2</sup> In light of the impact human milk can have on infant health outcomes, the World Health Organization (WHO) has recently asked countries to promote the safe use of donor milk through human milk banks for vulnerable infants.

### WHAT ARE THE BENEFITS OF BREASTMILK?

Breastmilk is considered the perfect food for infants. It provides optimal nutrition by meeting infants' micronutrient, protein, and energy needs. Human milk is also unique because of its important immunological and anti-infective factors. These include proteins with antimicrobial properties and sugars that inhibit bacteria and viruses. Breastmilk also promotes healthy gastrointestinal microbiota, which can prevent gut inflammation and reduce susceptibility to infection with HIV or other pathogens.

Infants who are fed formula in lieu of breastfeeding can be at increased risk of illness and death. This is especially true of infants in developing countries who may face continual exposure to potential pathogens through unsafe water or unhygienic conditions. A study in Ghana, India, and Peru found that non-breastfed infants had a tenfold higher risk of dying compared to predominantly breastfed infants.<sup>3</sup>

Infants who are pre-term, low birthweight, severely malnourished, born to HIV-positive mothers, or orphaned are particularly vulnerable. For these infants, breastfeeding is especially helpful for reducing the risk of gastrointestinal disease and other life-threatening health problems.<sup>4</sup>

### WHAT CAN BE DONE WHEN BREASTFEEDING IS NOT AN OPTION?

Vulnerable infants are often unable to suckle, or their mothers have underlying health issues that make breastfeeding impossible. In some cases, mothers are unavailable or have died. Should these vulnerable infants be denied human milk when they need it most? To address these kinds of circumstances, WHO has developed a hierarchy of feeding choices for vulnerable babies that recognizes the importance of donated breastmilk (Figure 1).



Wendy Stone

### Njabulo's story

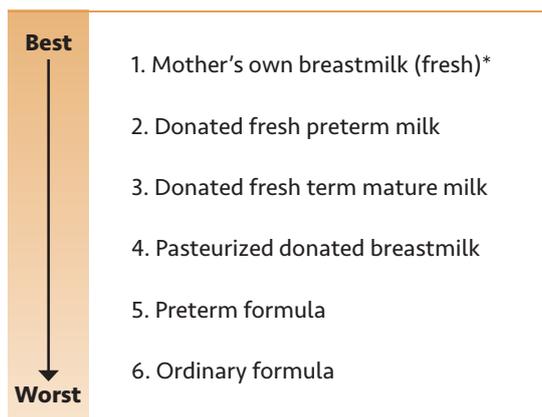
Njabulo's mother knew breastmilk would be the best food for her baby, so when her son was born weighing only 2.0 kg, she tried to breastfeed him. But Njabulo's mother was HIV-positive, and within a short time she became too ill to continue breastfeeding. When Njabulo was just two months old, his mother died.

With his mother gone, Njabulo had no access to the breastmilk that could safely provide all the energy, nutrients, and fluids he would need for the first six months of his life, as well as antibodies to keep him free from illness. When he arrived at the iThemba Lethu transition home for HIV-exposed infants in South Africa's KwaZulu-Natal province, he was severely underweight and suffering from frequent diarrhea and a severe skin rash. Luckily, the transition home had a human milk bank.

As he began to receive donated human milk, Njabulo's health improved dramatically. His diarrhea stopped, and his rash disappeared. He gained weight. By the time he was 3 months old, Njabulo was a growing, thriving baby.

All babies deserve optimal nutrition so they can be healthy and grow like Njabulo.

**Figure 1. WHO hierarchy of feeding choices for low-birth-weight babies.**



Source: Arnold, 2006.<sup>2</sup>

\* If the mother is HIV infected or if there is concern about contamination of the breastmilk it should first be pasteurized (flash-heated) before it is fed to the infant.

One way to provide safe breastmilk to vulnerable infants in need is human milk banking. In this process, breastfeeding mothers donate their extra milk, which is collected by the milk bank, pasteurized to make it safe, and then frozen until needed.

Health care workers around the world are recognizing the potential benefits of donor breastmilk and are working to make human milk banking a reality. In South Africa, for example, an estimated 19 private and public milk banks are in operation. Some are located within hospital neonatal units, some operate as public-private partnerships, and some are community-based.

Brazil is home to the world's largest system of human milk banks. The Brazilian National Network of Human Milk Banks is fully integrated into the health system and supports human milk banks as one element of a national strategy for promoting breastfeeding. The network has more than 192 milk banks and includes support from firefighters and police officers to collect milk from donors' homes. Recognized internationally as a model system, the network received the Sasakawa Health Award from WHO in 2001 for making significant contributions towards improving the nation's health and reducing infant mortality rates.

### WHO IS RESPONSIBLE FOR PROTECTING BREASTFEEDING AND PROMOTING HUMAN MILK BANKING?

In the absence of breastmilk from the baby's mother, ensuring optimal infant nutrition requires that human milk be provided through a milk bank or other source. Government and civil society need to provide the resources and commitment to make sure donor milk

is available as a backup when a mother's own milk is unavailable. All groups are responsible for protecting, promoting, and supporting donor milk banking as an integral component of protecting, promoting, and supporting breastfeeding for optimal infant and child health. Brazil is a shining example of how supporting breastfeeding can support milk banking and improve infant health and survival on a national scale.

Although South Africa does not have a national policy on human milk banking, infant and young child feeding policies promote exclusive breastfeeding for infants under six months of age followed by continued breastfeeding as a child survival strategy. Incorporating human milk banking into breastfeeding promotion strategies may be one answer to improving the survival, growth, and development of vulnerable infants.

#### World Health Organization's call to countries concerning donor milk for vulnerable infants

"To investigate, as a risk-reduction strategy...the safe use of donor milk through human milk banks for vulnerable infants, in particular premature, low-birth-weight and immunocompromised infants, and to promote appropriate hygienic measures for storage, conservation, and use of human milk . . ."

– World Health Assembly, 24 May 2008

#### References

1. WHO Collaborative Study Team on the Role of Breastfeeding in the Prevention of Infant Mortality. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analysis. *The Lancet*. 2000;355(9202):451-455.
2. Arnold LD. Global health policies that support the use of banked donor human milk: a human rights issue. *International Breastfeeding Journal*. 2006;1:26.
3. Bahl R, Frost C, Kirkwood BR, et al. Infant feeding patterns and risks of death and hospitalization in the first half of infancy: multicentre cohort study. *Bulletin of the World Health Organization*. 2005; 83(6):418-426.
4. Boyd CA, Quigley MA, Brocklehurst P. Donor breastmilk versus infant formula for preterm infants: a systematic review and meta-analysis. *Archives of Disease in Childhood. Fetal and Neonatal Edition*. 2007;92:F169-F175.

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July 2011